

Remarks

A. Pending Claims

Claims 1691-1747 are pending. Claims 409-465 have been cancelled.

B. The Claims Are Not Obvious Over EP130671 In View of Holen Pursuant To 35 U.S.C. §103(a)

Claims 409-411, 418-435, 437, 439-442, 445-455, and 458-465 were rejected under 35 U.S.C. §103(a) as being unpatentable over European Patent Application 0130671 to Rose (hereinafter “EP130671”) in view of U.S. Patent Application Publication No. 2002/0028070 to Holen (hereinafter “Holen”). Applicant respectfully disagrees with these rejections.

To reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 U.S.P.Q. 173, 177-178 (C.C.P.A. 1967). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Claims 1691 and 1711 describe combinations of features including:

one or more electrical conductors located in the heater well and extending from the surface into the hydrocarbon containing layer, the electrical conductors being electrically coupled to the AC supply;

at least one electrical conductor comprising one or more ferromagnetic sections, and being configured to provide an electrically resistive heat output during application of AC to the electrical conductor such that heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.

Claim 1731 describes a combination of features including:

providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth into a hydrocarbon containing layer in the formation, ...

allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.

The cited art does not appear to teach or suggest the combination of features set forth in the system claims including, but not limited to:

“one or more electrical conductors located in the heater well and extending from the surface into the hydrocarbon containing layer, the electrical conductors being electrically coupled to the AC supply;” and

“at least one electrical conductor comprising one or more ferromagnetic sections, and being configured to provide an electrically resistive heat output during application of AC to the electrical conductor such that heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.”

The cited art does not appear to teach or suggest the combination of features set forth in the method claims including, but not limited to:

“providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth into a hydrocarbon containing layer in the formation;” and

“allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.”

EP130671 relates to autoregulation in a “relatively small device.” See page 8, line 20.

There is no teaching or suggestion in EP 130671 of any of the above-mentioned combinations of features. EP 130671 does not, for example, even mention wells or hydrocarbons. EP 130671 does not, for instance, have any teaching relating to “electrical conductors in a heater well and extending from the surface into the hydrocarbon containing layer,” “voltage above about 200 volts,” and/or transferring heat from “electrical conductors to hydrocarbons in the hydrocarbon layer to at least mobilize some hydrocarbons in the layer,” in combination with the other features

in Applicant's claims.

In fact, EP 130671 teaches away from the combinations of features in Applicant's claims because EP 130671 refers to heating fluids **inside** of the device. Specifically, EP 130671 states: "It should be noted that the insulating layer 29 of Fig. 3 has been eliminated to provide a gap between return conductor 27 and ferromagnetic layer 31. This gap insulates such members from one another and may be employed to heat fluids; air, gas, water, or other liquid, for a variety of purposes. Any one of the insulating layers may be removed to accept fluid and in fact, three different fluids may be heated simultaneously to three different temperatures." (EP130671, page 17, lines 18-26). Applicant's claims 1691 and 1711, however, refer to the combination of features including, but not limited to, "one or more electrical conductors located in the heater well and extending from the surface **into the hydrocarbon containing layer**" and "**application of AC to the electrical conductor such that heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer" (emphasis added). Applicant's claim 1731 refers to the combination of features including, but not limited to, "providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth **into a hydrocarbon containing layer in the formation**" and "**allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer" (emphasis added).

Holen also does not teach any of the above-mentioned combinations of features. While Holen does refer to crude oil and crude oil pipelines in the sea, these pipelines are not in any hydrocarbon containing layer. Significantly, Holen teaches away from the combination of features in Applicant's claims. Holen teaches, for example, **thermally insulating** the pipelines so that heat from the pipeline is inhibited from transferring to the surrounding. Holen refers to "metallic tubes having a **thermal insulation**" (see claim 1 of Holen) and "preferably according to the invention the **thermal insulation** which warrants the crude oil being on a sufficiently low level of viscosity during transportation and acts simultaneously as the electrical insulation in the section where the metal tube acts as a heating element, is made of an extruded polymeric

material, this may also be crosslinked” (paragraph 0008). Applicant’s claims 1691 and 1711, however, refer to the combination of features including, but not limited to “one or more electrical conductors located in the heater well and extending from the surface and **into the hydrocarbon containing layer**” and “application of AC to the electrical conductor such that **heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer” (emphasis added). Applicant’s claim 1731 refers to the combination of features including, but not limited to, “providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth **into a hydrocarbon containing layer in the formation**” and “**allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer” (emphasis added).

Applicant submits that the cited art does not appear to teach or suggest all of the features of claims 1691, 1711, 1731, and the claims dependent thereon.

C. The Claims Are Not Obvious Over EP130671 In View of Holen And Further In View of Pritchett Pursuant To 35 U.S.C. §103(a)

Claims 412, 413, 416, 436, 438, 443, and 456 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP130671 in view of Holen and further in view of U.S. Patent No. 3,757,860 to Pritchett (hereinafter “Pritchett”). Applicant respectfully disagrees with this rejection.

Claims 1691 and 1711 describe combinations of features including:

one or more electrical conductors located in the heater well and extending from the surface into the hydrocarbon containing layer, the electrical conductors being electrically coupled to the AC supply;

at least one electrical conductor comprising one or more ferromagnetic sections, and being configured to provide an electrically resistive heat output during application of AC to the electrical conductor such that heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.

Claim 1731 describes a combination of features including:

providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth into a hydrocarbon containing layer in the formation, ...

allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.

The cited art does not appear to teach or suggest the combination of features set forth in the system claims including, but not limited to:

“one or more electrical conductors located in the heater well and extending from the surface into the hydrocarbon containing layer, the electrical conductors being electrically coupled to the AC supply;” and

“at least one electrical conductor comprising one or more ferromagnetic sections, and being configured to provide an electrically resistive heat output during application of AC to the electrical conductor such that heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.”

The cited art does not appear to teach or suggest the combination of features set forth in the method claims including, but not limited to:

“providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth into a hydrocarbon containing layer in the formation;” and

“allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.”

For at least the reasons cited above in section B of this document, EP130671 and Holen do not appear to teach, suggest, or provide motivation for at least the above-quoted features of the claims.

In addition, Pritchett does not teach any of the above-mentioned combinations of features. While Pritchett does refer to heaters below the ground in permafrost zones, these heaters are not in any hydrocarbon containing layer. Pritchett states: “Well 2, for sake of simplicity, shows a

simplified wellhead 3 composed of an outer longitudinally extending pipe or casing 4 having substantially concentric therein a longitudinally extending inner pipe or tubing 5, both pipes **extending through permafrost zone 6 into unfrozen earth 7.**" (Pritchett, column 4, lines 15-21). Applicant's claims 1691 and 1711, however, refer to the combination of features including, but not limited to "one or more electrical conductors located in the heater well and extending from the surface and **into the hydrocarbon containing layer**" (emphasis added). Applicant's claim 1731 refers to the combination of features including, but not limited to, "providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth **into a hydrocarbon containing layer in the formation**" (emphasis added).

Significantly, Pritchett teaches away from the combination of features in Applicant's claims. Pritchett teaches, for example, **low degrees of heating** are used to maintain thermal equilibrium between a production well and a permafrost zone and prevent thermal cycling of the production well and the permafrost zone when fluid flow in the production well is low or stopped. The **low degrees of heating** may also be used to prevent hydrate formation and/or make fluid in the production well more pumpable. While Pritchett does refer to heating below the ground, the heating does not take place in any hydrocarbon containing layer and does not mobilize any hydrocarbons in any hydrocarbon containing layer.

Pritchett states: "By following the method of this invention, sufficient heating of the pipe at least in a limited zone, e.g., a permafrost zone, is achieved to prevent hydrate formation, to cause thawing, to prevent thermal cycling above and below the freezing point of water, or to render produced liquid more fluid while still using a safe voltage." (Pritchett, column 2, lines 54-59). Pritchett further states: "The heating achieved by this invention **is normally no greater than the heating effected by normal production of warm fluid** through the well so that any permafrost that may be present **is not subjected to any greater degree** of heat than that which is normal for the producing well. Where the flow rate, temperature and thermal properties of the produced fluid are such that the permafrost would refreeze, then heating by the method of this invention can be employed to prevent thermal cycling. In wells that do not pass through a permafrost zone more heating can be tolerated and can be provided by this invention to, for example, reduce hydrate formation or render produced fluid more pumpable." (Pritchett, column

3, lines 6-18). Applicant's claims 1691 and 1711, however, refer to the combination of features including, but not limited to "one or more electrical conductors located in the heater well and extending from the surface and **into the hydrocarbon containing layer**" and "application of AC to the electrical conductor such that **heat transfers from the electrical conductor to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer" (emphasis added). Applicant's claim 1731 refers to the combination of features including, but not limited to, "providing an AC at a voltage above about 200 volts to one or more electrical conductors located in a heater well extending from a surface of the earth **into a hydrocarbon containing layer in the formation**" and "**allowing heat to transfer from the electrical conductors to hydrocarbons in the hydrocarbon containing layer** to at least mobilize some hydrocarbons in the layer" (emphasis added).

In addition, claims 1691 and 1711 describe combinations of features including: "an AC supply configured to provide AC at a voltage above about 200 volts". Claim 1731 describes a combination of features including: "providing an AC at a voltage above about 200 volts to one or more electrical conductors".

Pritchett teaches limiting the current to less than 75 volts for safety. Pritchett states: "The voltage employed with the alternating current is preferably that which is substantially harmless to personnel working around the well and is generally no greater than 75 volts, preferably no greater than about 50 volts as initially applied to the wellhead. With voltages no greater than 75 volts, slow thawing of a frozen well can be achieved. Faster thawing can be achieved with voltages greater than 75 volts but additional personnel safety features should be used with these higher voltages." (Pritchett, column 5, lines 44-53). Modifying Pritchett with the voltages of Holen (between 5 kV and 40 kV) appears to teach away from the intended purpose of the invention of Pritchett of limiting the current to less than 75 volts.

Applicants submits that the cited art does not appear to teach or suggest all of the features in claims 1691, 1711, 1731, and the claims dependent thereon.

D. The Claims Are Not Obvious Over EP130671 In View of Holen And Further In View of Vanegmond Pursuant To 35 U.S.C. §103(a)

Claims 414, 444, and 457 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP130671 in view of Holen and further in view of U.S. Patent No. 4,572,299 to Vanegmond et al. (“Vanegmond”). Applicant respectfully disagrees with this rejection.

Claims 414 and 457 described combinations of features including the feature of: “wherein the heater system is configured to provide heat to a hydrocarbon containing formation, and wherein the system is configured to pyrolyze at least some hydrocarbons in the formation”. Claim 444 described a combination of features including the feature of “further comprising allowing heat to transfer from at least one of the electrically resistive sections to at least a part of a hydrocarbon containing formation, and further comprising pyrolyzing at least some hydrocarbons in the formation”. New claims 1694 and 1714 each describe a combination of features including the feature of “wherein at least one electrical conductor transfers heat to hydrocarbons in the hydrocarbon containing layer to pyrolyze at least some hydrocarbons in the layer”. New claim 1733 describes a combination of features including the feature of “wherein the transferred heat pyrolyzes at least some hydrocarbons in the hydrocarbon containing layer”.

For at least the reasons cited above in section B of this document, EP130671 and Holen do not appear to teach, suggest, or provide motivation for the above-quoted features of the claims.

E. The Claim Is Not Obvious Over EP130671 In View of Holen And Further In View of CA2152521 Pursuant To 35 U.S.C. §103(a)

Claim 417 was rejected under 35 U.S.C. §103(a) as being unpatentable over EP130671 in view of Holen and further in view of Canadian Pat. No. 2,152,521 to Bridges. Claim 417 included the feature of “wherein the heater system comprises three or more electrical conductors, and wherein at least three of the electrical conductors are configured to be coupled in a three-phase electrical configuration”. Presently pending claims 1697 and 1717 include this feature in combination with other features. Applicant respectfully disagrees with this rejection.

Claim 417 described a combination of features including the feature of “wherein the heater system comprises three or more electrical conductors, and wherein at least three of the electrical conductors are configured to be coupled in a three-phase electrical configuration”. Presently pending claims 1697 and 1717 each describe a combination of features including the above-quoted feature.

For at least the reasons cited above in section B of this document, EP130671 and Holen do not appear to teach, suggest, or provide motivation for the above-quoted features of the claims.

F. Dependent Claims

Applicant submits, in addition, that some of the claims dependent on claims 1691, 1711, and 1731 are separately patentable.

Claims 1692 and 1712 describe combinations of features including: “at least one production well extending into the hydrocarbon containing layer and configured to produce at least some of the mobilized hydrocarbons from the hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1692 and 1712, in combination with the other features of the claims.

Claims 1693 and 1713 describe combinations of features including: “wherein at least one electrical conductor transfers heat during use to hydrocarbons in the hydrocarbon containing layer to at least mobilize some hydrocarbons in the layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1693 and 1713, in combination with the other features of the claims.

Claims 1694 and 1714 describe combinations of features including: “wherein at least one electrical conductor transfers heat during use to hydrocarbons in the hydrocarbon containing layer to pyrolyze at least some hydrocarbons in the layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1694 and 1714, in combination with the

other features of the claims.

Claims 1695 and 1715 describe combinations of features including: “wherein at least one of the ferromagnetic sections heats during use to a temperature of at least about 650 °C.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1695 and 1715, in combination with the other features of the claims.

Claims 1696 and 1716 describe combinations of features including: “wherein the AC supply is configured to provide AC at a voltage below about 2500 volts.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1696 and 1716, in combination with the other features of the claims.

Claims 1697 and 1717 describe combinations of features including: “wherein the heater well extends from the surface of the earth through an overburden of the formation into the hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1697 and 1717, in combination with the other features of the claims.

Claims 1698 and 1718 describe combinations of features including: “wherein the system comprises three or more electrical conductors, and wherein at least three of the electrical conductors are coupled in a three-phase electrical configuration.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1698 and 1718, in combination with the other features of the claims.

Claims 1699 and 1719 describe combinations of features including: “wherein at least one of the ferromagnetic sections comprises iron, nickel, chromium, cobalt, tungsten, or a mixture thereof.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1699 and 1719, in combination with the other features of the claims.

Claims 1700 and 1720 describe combinations of features including: “wherein at least one

of the ferromagnetic sections has a thickness of at least about $\frac{3}{4}$ of a skin depth of the AC at the Curie temperature of such ferromagnetic sections.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1700 and 1720, in combination with the other features of the claims.

Claims 1701 and 1721 describe combinations of features including: “wherein the heat output below the selected temperature is greater than about 400 watts per meter of electrical conductor.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1701 and 1721, in combination with the other features of the claims.

Claims 1702 and 1722 describe combinations of features including: “wherein at least a portion of the electrical conductor is longer than about 10 m.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1702 and 1722, in combination with the other features of the claims.

Claims 1703 and 1723 describe combinations of features including: “wherein one or more of the ferromagnetic sections are configured to sharply reduce the heat output at or near the selected temperature.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1703 and 1723, in combination with the other features of the claims.

Claims 1704 and 1724 describe combinations of features including: “wherein the heat output from at least a portion of the ferromagnetic sections decreases at or near the selected temperature due to the Curie effect.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1704 and 1724, in combination with the other features of the claims.

Claims 1705 and 1725 describe combinations of features including: “wherein the AC resistance of the electrical conductor increases with an increase in temperature up to the selected temperature, and wherein the AC resistance of the electrical conductor decreases with an increase in temperature above the selected temperature.” The cited art does not appear to teach or suggest

at least the above-quoted features of claims 1705 and 1725, in combination with the other features of the claims.

Claims 1706 and 1726 describe combinations of features including: “wherein the AC supply provides an electrical current of at least about 70 amps to the electrical conductor.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1706 and 1726, in combination with the other features of the claims.

Claims 1707 and 1727 describe combinations of features including: “wherein at least one of the electrical conductors comprises a turndown ratio of at least about 2 to 1.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1707 and 1727, in combination with the other features of the claims.

Claims 1708 and 1728 describe combinations of features including: “wherein the AC supply applies AC at about 180 Hz.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1708 and 1728, in combination with the other features of the claims.

Claims 1709 and 1729 describe combinations of features including: “wherein the system withstands operating temperatures of about 250 °C or above.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1709 and 1729, in combination with the other features of the claims.

Claims 1710 and 1730 describe combinations of features including: “wherein the electrical conductor automatically provides the reduced amount of heat above or near the selected temperature.” The cited art does not appear to teach or suggest at least the above-quoted features of claims 1710 and 1730, in combination with the other features of the claims.

Claim 1732 describes a combination of features including: “producing at least some of the mobilized hydrocarbons from the layer through a production well extending into the

hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1732, in combination with the other features of the claim.

Claim 1733 describes a combination of features including: “wherein the transferred heat pyrolyzes at least some hydrocarbons in the hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1733, in combination with the other features of the claim.

Claim 1734 describes a combination of features including: “producing at least some of the pyrolyzed hydrocarbons from the layer through a production well extending into the hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1734, in combination with the other features of the claim.

Claim 1735 describes a combination of features including: “wherein the heater well extends from the surface of the earth through an overburden of the formation into the hydrocarbon containing layer.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1735, in combination with the other features of the claim.

Claim 1736 describes a combination of features including: “wherein at least one of the ferromagnetic sections heats to a temperature of at least about 650 °C.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1736, in combination with the other features of the claim.

Claim 1737 describes a combination of features including: “providing the AC at a voltage below about 2500 volts.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1737, in combination with the other features of the claim.

Claim 1738 describes a combination of features including: “providing the AC to at least one of the electrical conductors at or above the selected temperature.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1738, in combination with

the other features of the claim.

Claim 1739 describes a combination of features including: “providing the AC at a frequency of about 180 Hz.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1739, in combination with the other features of the claim.

Claim 1740 describes a combination of features including: “providing an initial electrically resistive heat output when the electrical conductor providing the heat output is at least about 50 °C below the selected temperature, and automatically providing the reduced amount of heat above or near the selected temperature.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1740, in combination with the other features of the claim.

Claim 1741 describes a combination of features including: “wherein an AC resistance of at least one of the ferromagnetic sections decreases above the selected temperature to provide the reduced amount of heat.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1741, in combination with the other features of the claim.

Claim 1742 describes a combination of features including: “wherein at least one of the ferromagnetic sections has a thickness of at least about ¾ of a skin depth of AC at the Curie temperature of the ferromagnetic material.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1742, in combination with the other features of the claim.

Claim 1743 describes a combination of features including: “wherein the reduced amount of heat is less than about 400 watts per meter of length of electrical conductor.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1743, in combination with the other features of the claim.

Claim 1744 describes a combination of features including: “controlling a skin depth in at

least one of the ferromagnetic sections by controlling a frequency of the applied AC.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1744, in combination with the other features of the claim.

Claim 1745 describes a combination of features including: “applying additional current to at least one of the ferromagnetic sections as the temperature of such ferromagnetic sections increases until the temperature is at or near the selected temperature.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1745, in combination with the other features of the claim.

Claim 1746 describes a combination of features including: “controlling an amount of heat provided by at least one of the ferromagnetic sections by controlling an amount of current applied to at least one of the electrical conductors.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1746, in combination with the other features of the claim.

Claim 1747 describes a combination of features including: “applying current of at least about 70 amps to at least one of the electrical conductors.” The cited art does not appear to teach or suggest at least the above-quoted features of claim 1747, in combination with the other features of the claim.

G. Provisional Double Patenting Rejections

Claims 409-414 and 416-465 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 466-518 of copending U.S. Pat. Appl. No. 10/693,700 in view of Holen. Claims 409-414 and 416-465 were also provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 268-408, 625, 659, 685, and 710 of copending U.S. Pat. Appl. No. 10/693,816 in view of Holen. Claims 409-414 and 416-465 have been cancelled.

H. Additional Comments

Applicant believes no fees are due with the filing of this document. If an extension of time is required, Applicant hereby requests the appropriate extension of time. If any fees are required or if any fees have been overpaid, please appropriately charge or credit those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5659-20900/EBM.

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